CLAIMS

1. A method for the production of protein micro-arrays formed of discrete analyte-specific regions present on a solid support, wherein each discrete region contains a selected capture protein, said method comprising :

a) contacting a C_5 to C_7 polyol with a protein contained in a spotting solution or being present on an array,

b) depositing the spotting solution on one of the discrete regions of the surface of a solid support,

c) allowing covalent fixation of the proteins on the surface of the support,

d) allowing the spotted solution to dry on the support,

2. The method of claim 1, wherein the polyol is a linear molecule.

3. The method of claim 1, wherein the polyol is mannitol, maltitol, or sorbitol.

4. The method of claim 1, wherein the polyol is a D-enantiomer.

5. The method of claim 1, wherein the polyol is a L-enantiomer.

6. The method of claim 2, wherein the linear polyols are linked to other molecules.

7. The method of claim 1, wherein the reagents used to form discrete regions in the micro-array are distinct capture proteins, and wherein steps b) and c) are repeated until the micro-array has at least 4 discrete analyte-specific regions of capture proteins per cm^2 of solid support.

8. The method of claim 1, wherein the proteins deposited on the surface are antigens, antibodies, receptors, ligands, or enzymes.

9. The method of claim 1, wherein the proteins to be identified and/or quantified are selected

from antigens, antibodies, receptors, ligands or enzymes.

10. The method of claim 1, wherein the loading solution comprises between 1 and 5 % polyol.

11. The method of claim 1, further comprising as a final step the step of storing the micro-array between 0 and 8°C.

12. The method of claim 1, further comprising as a final step the step of storing the micro-array between 15 and 30°C.

13. The method of claims 11, wherein the micro-array is stored under air conditions.

14. The method of claim 11, wherein the micro-array is stored under amorphous gas.

15. The method of claim 11, wherein the micro-array is stored under reduced pressure or under partial vacuum.

16. The method of claim 1, wherein all said capture proteins have at least 70% of their activity after 6 months of storage,

17. The method of claim 1, wherein all said capture proteins have at least 70% of their activity after 12 months of storage.

18. The method of claim 1, wherein the aqueous solution containing the polyol molecule also contain an anti-bacterial molecule.

19. A kit for the detection, identification, and/or quantification, of target proteins present in a biological sample or test solution, said kit comprising a protein micro-array as obtained by the method of claim 1.